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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,641	04/21/2006	Shunpei Yamazaki	740756-2952	5447
22204	7590	12/12/2007		
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			EXAMINER MUSTAPHA, ABDULFATTAH B	
			ART UNIT 2812	PAPER NUMBER
			MAIL DATE 12/12/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/576,641

Applicant(s)

YAMAZAKI ET AL.

Examiner

Abdulfattah Mustapha

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

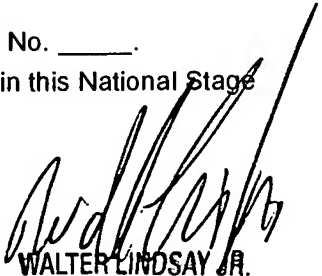
### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
WALTER LINDSAY JR.  
PRIMARY EXAMINER

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/30/2006 and 4/21/2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1- 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyazawa [US 2003/0127974].

Miyazawa disclose forming a first electrode over a substrate; forming a first insulating film to cover the first electrode 11a; forming a first semiconductor layer 1a over the first insulating film; forming a second insulating film over the first semiconductor layer to overlap the first electrode; forming an n-type second semiconductor layer to cover the second insulating film; patterning patterning the first and second semiconductor layers into an island shape; forming a second and a third electrodes over the second

semiconductor layer; etching the second semiconductor layer using the second and the third electrode as a mask to be separated; and forming a fourth electrode to be in contact with the third electrode, wherein at least one of the first electrode, the second electrode, the third electrode and the fourth electrode is formed by a droplet discharge method ([0056] – [0165], [Figures 9 – 17])(Claims 1 and 2), Wherein the second electrode is electrically connected with the fourth electrode ([0056] – [0165], [Figures 9 – 17]) (Claims 3 and 4) and separating the first semiconductor layer into a first semiconductor island in contact with the second electrode and a second semiconductor island in contact with the third electrode; forming a second semiconductor layer over the first and second the semiconductor islands ([0056] – [0165], [Figures 9 – 17]) (Claims 5 and 6).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murade [US 2004/0004221] and further in view of Hashimoto et al. [US 2004/0195569].

Murade disclose forming a first electrode 11a over a substrate 10; forming a first insulating film 12 to cover the first electrode 11a; forming a first semiconductor layer 1a

over the first insulating film 12; forming a second insulating film 21 over the first semiconductor layer to overlap the first electrode; forming an n-type second semiconductor layer to cover the second insulating film; patterning patterning the first and second semiconductor layers into an island shape; forming a second and a third electrodes over the second semiconductor layer; etching the second semiconductor layer using the second and the third electrode as a mask to be separated; and forming a fourth electrode to be in contact with the third electrode ([0013] – [0050], [0137] – [0191], [Figures 2, 3, 10, 11 and 13 – 20]) (Claims 1 and 2), Wherein the second electrode is electrically connected with the fourth electrode (0140)([0013] – [0050], [0137] – [0191], [Figures 1 - 4, 10, 11 and 13 – 20]) (Claims 3 and 4) and separating the first semiconductor layer into a first semiconductor island in contact with the second electrode and a second semiconductor island in contact with the third electrode; forming a second semiconductor layer over the first and second the semiconductor islands ([0013] – [0050], [0137] – [0191], [Figures 1 - 4, 10, 11 and 13 – 20]) (Claims 5 and 6).

Murade fail to disclose at least one of the first electrode, the second electrode, the third electrode and the fourth electrode is formed by a droplet discharge method.

Hashimoto et al. disclose at least one of the first electrode, the second electrode, the third electrode and the fourth electrode is formed by a droplet discharge method ([0184] – [0125], [Figures 11 and 14]) (Claims 1 – 6). Hashimoto et al. disclose base treatment is performed on a formation face before an electrode is formed by a droplet

discharge method ([0184] – [0125], [Figures 11 and 14]) (Claim 7). Hahimoto et al. disclose base treatment is performed on an electrode before a film to be in contact with the electrode is formed by a droplet discharge method ([0184] – [0125], [Figures 11 and 14]) (Claim 8). Hashimoto et al. disclose a substance having a photocatalytic function is formed on a formation face as base treatment and the substance having a photocatalytic function is selectively irradiated with light to be hydrophilic ([0028], [0029]) (Claim 9 and 11). Hashimoto et al. disclose plasma treatment is performed as base treatment on a formation face to be liquid-repellent ([0028], [0029]) (Claims 10 and 12).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify Murade by, forming electrode by a droplet discharge method and formation face to be liquid-repellent, as taught by Hasimoto et al. with the motivation, that enable simplification of process and increase in productivity.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; Wu [US 2004/0207792], Hasei et al. [US 2003/0203643] and Yudasaka et al. [US 20050029591].

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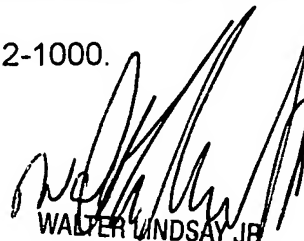
Page 6

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdulfattah Mustapha whose telephone number is 571-272-9736. The examiner can normally be reached on Mon-Thus. (7:00am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Abdulfattah Mustapha



WALTER LINDSAY JR.  
PRIMARY EXAMINER